

Grade 4 Science Item Sampler Key

1. D
2. D
3. The Rocky mountains could have been eroded by wind, rain, and/or ice. (Any two of these three causes will suffice for a correct response.)
4. This is a fair test because all conditions were kept the same except for the one being tested, which was the light or lack of it that the plants were grown in.
5. Any two of the following would suffice for a correct response:
 - Thermometer,
 - stove/burner/hot plate,
 - graduated cylinder/beaker

AND (A correct response is any response that indicates that:) Most of the data supports Eric's prediction because the 40°C water in trials E, F, and H all took less time to boil than the 20°C water in trials A-D. However, the 40°C water in trial G took longer to boil than the water in all the other trials. Because trial G's results are so different from the rest, this trial should be thrown out and the conclusion should be that Eric's prediction has been proven.

AND (A correct response is any response indicating any of the following:) Communicating results of experiments with other scientists is important because:

- other scientists can then repeat the experiment to make sure the results are reliable
- other scientists can use the information to inform their own work on similar experiments/research
- other scientists can use the information as a basis for new research/experiments

AND (A correct response is any response indicating that:) Trial G may be different because:

- The temperature of the stove/burner/hot plate used to heat the water sample in trial G might not have been the same as those used to heat the other samples.
- The water sample in trial G might have had something/another chemical in it in addition to the water, which made the boiling point higher for that sample than for the others.
- The original temperature of the water in trial G might have been lower than 40°C and its initial temperature recorded incorrectly in the table.